



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/719,099

11/22/2003

Jose P. Pereira

NLMI.P112C

1950

7590

04/11/2006

Shemwell Gregory & Courtney LLP
Suite 201
4880 Stevens Creek Boulevard
San Jose, CA 95129

EXAMINER

DINH, SON T

ART UNIT

PAPER NUMBER

2824

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,099

Applicant(s)

PEREIRA ET AL.

Examiner

Son T. Dinh

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 130-150 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 130-141 and 150 is/are allowed.
- 6) ☒ Claim(s) 142 and 146-149 is/are rejected.
- 7) ☒ Claim(s) 143-145 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/22/03, 2/9/04; 2/17/04; 1/13/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: East search history.

DETAILED ACTION

The pre-amendment filed on 11/22/03 has been entered.

Claims 1-129 have been canceled.

Claims 120-150 are pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 142 is rejected under 35 U.S.C. 102(e) as being anticipated by Richards et al (U.S. Patent No 6,970,457).

Figure 5 of Richards et al discloses a memory device comprising a cyclic redundancy check (CRC) circuit (7) to generate a CRC value (the output that is applied to element 9), and a CAM array (8) coupled to the CRC circuit. It is noted that the compare lines are inherently included in the reference of Richards et al because every CAM must have a compare line so as to compare the input data with reference data so as to generate a match or mismatch signal (or hit and miss signals). And since the output of the CRC circuit is coupled to the CAM, then the CAM would couple to the compare lines in the CAM and receives the CRC value (the output of CRC circuit).

Claims 146-149 are rejected under 35 U.S.C. 102(e) as being anticipated by Nataraj et al (U.S. Patent No 6,934,795).

Regarding claim 146, Nataraj et al disclose a memory device comprising CAM array (404, figure 4 and/or 1601, figure 18) including a plurality of CAM cells (405, figure 4) and a plurality of match lines (ML, figure 4) coupled to respective rows of the CAM cells 405, a priority index table (1603, figure 18) including a plurality of storage circuits (see column 8, lines 53-58) coupled to the plurality of match lines ML, a multiplexer (1929, figure 19) having a first input (terminal 1 in MUX 1929 in figure 18) coupled to receive a selected priority values from the priority index table (figure 18 shows that the outputs of the priority index table is applied to the output select circuit 1821 (figures 18 and 19) and such outputs are applied to the MUX 1929 through element 1921 in figure 19), and a second input (terminal 2 in MUX 1929, figure 19) to receive a predetermined priority value (the data in line 10 (figure 10) is a predetermined priority value; see column 37, lines 46-54).

Regarding claim 147, the priority logic 410 (figure 4) in Nataraj et al clearly shows that the priority value indicate relative of values stored within corresponding rows of the CAM cells 405.

Regarding claim 148, signal SZ32 that is applied to the MUX1929 (figure 10) would be considered as a select signal.

Regarding claim 149, the multiplexer 1929 (figure 19) clearly outputs the predetermined value to the line 1604 (figure 19) in response to an operation to

Art Unit: 2824

determine whether the CAM 404 is able to store a first value, and whether a specified value is stored within the CAM 404.

Allowable Subject Matter

Claims 130-141 and 150 are allowed.

Claims 143-145 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or suggest a memory device comprising a circuit for converting an input value into a search value, a first storage including CAM cells, compare lines coupled to columns of the CAM cells and match lines coupled to rows of the CAM cells, the compare lines being coupled to receive the search value, a second storage couple to the match lines of the first storage, and a compare circuit coupled to an output of the second storage and coupled to an output of the second storage and coupled to receive the input value (claims 130 and 150); the use of a mask circuit to mask selected bits in the CRC value (claim 143); the CRC value constitute bits and wherein the at least a portion of the CRC value comprises M contiguous bits of the CRC value, M being less than N (claim 145).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Cheng et al disclose a memory device having CAM cells.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Dinh whose telephone number is 571-272-1868. The examiner can normally be reached on Monday to Friday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Dinh
April 8, 2006

Application/Control Number: 10/719,099
Art Unit: 2824

Page 6

A handwritten signature in black ink, appearing to read 'Son T. Dinh', with a stylized, cursive script.

Son T. Dinh
Primary Examiner